

Lot 4—Field 1

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 1 Acres: 17 Date: 8/27/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Red Pine	10-18	Heavy	18	Even	73	78	Good
American Beech	S/P	Heavy	20	Multiple			Poor

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a mature Red Pine (*Pinus resinosa*) Plantation in the mid stages of hardwood succession with significant intrusions of American Beech (*Fagus grandifolia*) extending into the subcanopy.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

This field contains a small marsh that is dominated by cattails (*Typha* spp.) and other emergent plants and is in the late stages of succession into a wet meadow. Note: This small wetland is surrounded by mature Norway Spruce (*Picea abies*) with a D.B.H. of up to 22 inches.

Fire Lane Status

The Fire Break in this field exists as an open field border along Wagner Road.

Lot 4—Field 1

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium density and is dominated by Red Pine (*Pinus resinosa*).

Subcanopy

The subcanopy is of heavy density and is dominated by American Beech (*Fagus grandifolia*).

Shrub Layer

The shrub layer is of light - medium density and includes Brambles (*Rubus* spp.), Poison Ivy (*Rhus radicans*), Spicebush (*Lindera benzoin*) and Dogbane (*Apocynum* spp.).

Herbaceous Layer

The herbaceous layer is of medium density and is dominated by a variety of ferns such as Evergreen Woodfern (*Dryopteris intermedia*), New York fern (*Thelypteris noveboracensis*), Lady fern (*Athyrium Filix-femina*), Marsh fern (*Thelypteris palustris*), Christmas fern (*Polystichum acrostichoides*) and Sensitive fern (*Onoclea sensibilis*) along with scattered herbaceous species.

Successional Status

This field represents a mature Conifer Plantation in the mid stages of hardwood succession. This forest will continue to evolve into a Beech/Maple dominated Climax Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: Garlic Mustard (*Alliaria officinalis*)

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*).

Lot 4—Field 2

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 2 Acres: 2 Date: 8/27/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
(see below)							

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a two acre Marsh/Wet Thicket that lies within a low, wet area within a mixed Hardwood Forest. This environment is rich in herbaceous plants, especially Golden Ragwort (*Senecio aureus*) and Spotted Jewelweed (*Impatiens capensis*) and wetland shrubs dominated by Speckled Alder (*Alnus rugosa*).

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
(see above)

Fire Lane Status

None

Lot 4—Field 2

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is not present.

Subcanopy

The subcanopy is not present.

Shrub Layer

The shrub layer is of heavy density and consists primarily of Speckled Alder (*Alnus rugosa*).

Herbaceous Layer

The herbaceous layer is of heavy density and is dominated by a variety of emergent and wetland species along with a variety of ferns such as Lady fern (*Athyrium Filix-femina*), Evergreen Woodfern (*Dryopteris intermedia*), Sensitive fern (*Onoclea sensibilis*) and Cinnamon fern (*Osmunda cinnamomea*).

Successional Status

This field represents a Marsh/Wet Thicket that is evolving into a mesic Shrubland and Young Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*). Cardinal Flower (*Lobelia cardinalis*), an uncommon wetland herb, is also protected.

Lot 4—Fields 3 and 13

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 3, 13 Acres: 108 Date: 8/27/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable		Condition (Good, Fair, Poor)
Sugar Maple	16-32	Heavy	11	Multiple		85	42	Good
American Beech	14-24	Heavy	17	Multiple		87	32	Good
Eastern Hemlock	P-30	Heavy	43	Multiple		88		Good
Black Cherry	12-24	Light - Medium	14	Multiple		87	36	Good
Yellow Birch	P-SL	Light		Multiple				Fair
White Ash	P-SL	Light		Multiple				Fair

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a mature Hardwood Forest that is dominated by Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*) and Eastern Hemlock (*Tsuga canadensis*). In addition, some mature Black Cherry (*Prunus serotina*), Yellow Birch (*Betula lutea*) and White Ash (*Fraxinus americana*) can also be found scattered throughout this forest.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

Field Number 3 contains a southwesterly flowing four season stream that drains from the Marsh/Wet Thicket in Field Number 2. Field Number 13 contains a significant Marsh that is located south of the gas line.

Fire Lane Status

The Fire Breaks in these fields are approximately 15 feet wide and are in need of moderate widening, clearing and pruning. These Fire Breaks are currently being used by All Terrain Vehicles. This use is strictly prohibited on County Forest property, and violators will be prosecuted.

Lot 4—Fields 3 and 13

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium - heavy density and is characterized by the dominant species of Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*) and Eastern Hemlock (*Tsuga canadensis*) with light intrusions of mature Black Cherry (*Prunus serotina*), Yellow Birch (*Betula lutea*) and White Ash (*Fraxinus americana*).

Subcanopy

The subcanopy is of medium - heavy density and is represented by a variety of hardwood species along with Eastern Hemlock (*Tsuga canadensis*).

Shrub Layer

The shrub layer is of light density and includes various species of Brambles (*Rubus* spp.).

Herbaceous Layer

The herbaceous layer is of medium density and is dominated by a variety of ferns such as Lady fern (*Athyrium Filix-femina*), Evergreen Woodfern (*Dryopteris intermedia*), Sensitive fern (*Onoclea sensibilis*), Cinnamon fern (*Osmunda cinnamomea*), Hayscented fern (*Dennstaedtia punctilobula*) and New York fern (*Thelypteris noveboracensis*) along with Tree Clubmoss (*Lycopodium obscurum*) and scattered herbaceous plants.

Successional Status

This field represents a mature mixed Hardwood Forest that is dominated by the Climax species of Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) along with Eastern Hemlock (*Tsuga canadensis*), a conifer associate.

Botanical Concerns - includes both invasive and protected species

Invasive: Garlic Mustard (*Alliaria officinalis*) and Japanese Knotweed (*Polygonum cuspidatum*)

Protected: All ferns listed under “Herbaceous Layer” except Hayscented fern (*Dennstaedtia punctilobula*) and Sensitive fern (*Onoclea sensibilis*). Tree Clubmoss (*Lycopodium obscurum*) and Painted Trillium (*Trillium undulatum*) are also protected.

Lot 4—Fields 4 and 8

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 4, 8 Acres: 30 Date: 8/28/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Red Pine	10-18	Heavy	21	Even	73	70	Good
American Beech	S/P	Medium		Multiple			Poor
Sugar Maple	S/P	Medium		Multiple			Poor
Black Cherry	S/P	Medium		Multiple			Poor

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

These fields represent Red Pine (*Pinus resinosa*) Plantations in the mid stages of hardwood succession. Between these fields and along the present Fire Break, exists mature Black Cherry (*Prunus serotina*) and Sugar Maple (*Acer saccharum*).

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

None

Fire Lane Status

The Fire Break between these two fields occupies a former road and is approximately 20 feet wide. This Fire Break is generally in good condition but is in need of moderate clearing and pruning.

Lot 4—Fields 4 and 8

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium density and is dominated by Red Pine (*Pinus resinosa*).

Subcanopy

The subcanopy is of heavy density and is represented by American Beech (*Fagus grandifolia*), Sugar Maple (*Acer saccharum*) and Black Cherry (*Prunus serotina*).

Shrub Layer

The shrub layer is generally not present.

Herbaceous Layer

The herbaceous layer is of medium - heavy density and is dominated by a variety of ferns such as Evergreen Woodfern (*Dryopteris intermedia*), Lady fern (*Athyrium Filix-femina*), Christmas fern (*Polystichum acrostichoides*) and Sensitive fern (*Onoclea sensibilis*).

Successional Status

These fields represent mature Red Pine (*Pinus resinosa*) Plantations in the mid stages of hardwood succession and will continue to evolve into a hardwood dominated Climax Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*).

Lot 4—Fields 5 and 9

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 5, 9 Acres: 4 Date: 8/28/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
(see below)							

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

These fields represent approximately four acres of Marsh/Wet Meadow environments characterized by a variety of emergent plant and wet thicket species.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

Field Number 9 contains a small, westerly flowing intermittent stream.

Fire Lane Status

The Fire Breaks in both fields serve as field buffers along Wagner Road. Field Number 9 also contains a Fire Break along its southern boundary that is approximately 20 feet wide and in need of moderate widening, clearing and pruning.

Lot 4—Fields 5 and 9

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is not present.

Subcanopy

The subcanopy is not present.

Shrub Layer

The shrub layer is of medium density and includes primarily Tartarian Honeysuckle (*Lonicera tartarica*).

Herbaceous Layer

The herbaceous layer is of heavy density and is dominated by Sensitive fern (*Onoclea sensibilis*), Common Cattail (*Typha latifolia*), Joe Pye Weed (*Eupatorium maculatum*) and Japanese Knotweed (*Polygonum cuspidatum*).

Successional Status

These fields represent Marsh environments transitioning into Wet Meadows. Terrestrial plants and subsequently mesic woody plants will continue to expand into these wetland margins as the systems further evolve.

Botanical Concerns - includes both invasive and protected species

Invasive: Tartarian Honeysuckle (*Lonicera tartarica*), Japanese Knotweed (*Polygonum cuspidatum*) and Garlic Mustard (*Alliaria officinalis*)

Protected: None

Lot 4—Fields 6 and 12

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 6, 12 Acres: 35 Date: 8/27/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Red Pine	10-18	Heavy	22	Even	73	76	Good
Sugar Maple	S-14	Medium		Multiple		78 45	Good
Black Cherry	P-24	Light		Multiple		78 40	Good
American Beech	S/P	Light		Multiple			Poor
White Ash	S/P	Light		Multiple			Poor

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

These fields represent mature Red Pine (*Pinus resinosa*) Plantations with significant hardwood intrusions of Sugar Maple (*Acer saccharum*) and Black Cherry (*Prunus serotina*).

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
None

Fire Lane Status

The Fire Breaks in these fields are approximately 15-20 feet wide and are in need of moderate widening, clearing and pruning.

Lot 4—Fields 6 and 12

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium - heavy density and is characterized by Red Pine (*Pinus resinosa*) along with Sugar Maple (*Acer saccharum*) and Black Cherry (*Prunus serotina*).

Subcanopy

The subcanopy is of medium - heavy density and is represented by Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*) and White Ash (*Fraxinus americana*).

Shrub Layer

The shrub layer is of light density and includes scattered “pockets” of Brambles (*Rubus* spp.).

Herbaceous Layer

The herbaceous layer is of medium density and is dominated by a variety of ferns such as Lady fern (*Athyrium Filix-femina*), Evergreen Woodfern (*Dryopteris intermedia*), Sensitive fern (*Onoclea sensibilis*), Christmas fern (*Polystichum acrostichoides*), New York fern (*Thelypteris noveboracensis*) and Hayscented fern (*Dennstaedtia punctilobula*) along with scattered herbaceous plants.

Successional Status

These fields represent mature Red Pine (*Pinus resinosa*) Plantations in the mid - late stages of hardwood succession. Mature hardwoods presently exist in the canopy and will gradually out compete the conifers as this field evolves into a Hardwood Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: Garlic Mustard (*Alliaria officinalis*)

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*) and Hayscented fern (*Dennstaedtia punctilobula*). Tree Clubmoss (*Lycopodium obscurum*) and White Baneberry (*Actaea pachypoda*) are also protected.

Lot 4—Field 7

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 7 Acres: 1 Date: 8/28/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
(see below)							

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a Wet Thicket Community with standing water present throughout the year.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems (see above).

Fire Lane Status

The Fire Break in this field is an extension of the Fire Break in Field Number 4 (see Field Number 4 for more details).

Lot 4—Field 7**FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS****Ecological Overview****Forest Physiognomy** (outer appearance)Canopy

The canopy is not present.

Subcanopy

The subcanopy is not present.

Shrub Layer

The shrub layer is of medium density and includes Common Elderberry (*Sambucus canadensis*) and Silky Dogwood (*Cornus amomum*).

Herbaceous Layer

The herbaceous layer is of heavy density and is dominated by a variety of ferns such as Lady fern (*Athyrium Filix-femina*), Evergreen Woodfern (*Dryopteris intermedia*) and Sensitive fern (*Onoclea sensibilis*) along with scattered herbs.

Successional Status

This field represents a Wet Thicket Community that will continue to fill in and evolve in to a more mesic Shrubland/Young Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*).

Lot 4—Field 10

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 10 Acres: 30 Date: 8/25/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable		Condition (Good, Fair, Poor)
White Ash	12-18	Light - Medium	17	Multiple		65	30	Fair
Red Maple	S-16	Light - Medium	16	Multiple		60	25	Fair

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a young, wet Secondary Hardwood Forest with a heavy density herbaceous layer. This area contains a four season stream that floods the adjacent forests seasonally.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

This field contains a westerly flowing four season stream.

Fire Lane Status

None

Lot 4—Field 10

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of light - medium density and is characterized by Red Maple (*Acer rubrum*) and White Ash (*Fraxinus americana*).

Subcanopy

The subcanopy is of light density and is represented by Musclewood (*Carpinus caroliniana*), American Basswood (*Tilia americana*) and Eastern Hemlock (*Tsuga canadensis*).

Shrub Layer

The shrub layer is generally not present except for some light patches of Tartarian Honeysuckle (*Lonicera tartarica*).

Herbaceous Layer

The herbaceous layer is of heavy density and is dominated by a variety of ferns such as Sensitive fern (*Onoclea sensibilis*) and Marsh fern (*Thelypteris palustris*) along with Meadow Horsetail (*Equisetum pratense*) and a variety of wetland herbs.

Successional Status

This field represents a young, wet Secondary Hardwood Forest that will gradually evolve into a drier more mesic Hardwood Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: Tartarian Honeysuckle (*Lonicera tartarica*)

Protected: Marsh fern (*Thelypteris palustris*) and Meadow Horsetail (*Equisetum pratense*).

Lot 4—Field 11

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 11 Acres: 3 Date: 8/27/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Norway Spruce	P-24	Heavy	10	Even	73	78	Good
Black Cherry	P-16	Light		Multiple		70 32	Good
White Ash	P	Light		Multiple			Fair
Red Maple	P	Light		Multiple			Fair

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a mature Norway Spruce (*Picea abies*) Plantation in the mid stages of Secondary Hardwood succession. This field also contains the remnants of a one acre wetland that is presently filling in and evolving into a Pioneer Forest of Quaking Aspen (*Populus tremuloides*) and Pin Cherry (*Prunus pennsylvanica*).

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems

This field contains a westerly flowing four season stream.

Fire Lane Status

The Fire Breaks in this field are approximately 20 feet wide and are in need of widening, clearing and pruning.

Lot 4—Field 11**FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS****Ecological Overview****Forest Physiognomy (outer appearance)**Canopy

The canopy is of heavy density and is characterized by the dominant species of Norway Spruce (*Picea abies*) along with light intrusions of Black Cherry (*Prunus serotina*) and White Ash (*Fraxinus americana*).

Subcanopy

The subcanopy is of light density and is represented by Black Cherry (*Prunus serotina*), White Ash (*Fraxinus americana*) and Red Maple (*Acer rubrum*).

Shrub Layer

The shrub layer is generally not present.

Herbaceous Layer

The herbaceous layer is of light density and is dominated by a variety of ferns such as Sensitive fern (*Onoclea sensibilis*), New York fern (*Thelypteris noveboracensis*) and Lady fern (*Athyrium Filix-femina*).

Successional Status

This field represents a mature Norway Spruce (*Picea abies*) Plantation in the mid stages of Secondary Hardwood succession characterized by intrusions of Black Cherry (*Prunus serotina*), White Ash (*Fraxinus americana*) and Red Maple (*Acer rubrum*).

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under “Herbaceous Layer” except Sensitive fern (*Onoclea sensibilis*).

Lot 4—Field 14

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 14 Acres: 6 Date: 8/28/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Red Pine	P-16	Heavy	10	Even	73	78	Good
Norway Spruce	P-18	Medium - Heavy	11	Even	73	80	Good
Black Cherry	P-18	Light		Multiple		75 36	Good
White Ash	P-14	Light		Multiple		72 30	Fair
Sugar Maple	P-14	Light		Multiple		72 40	Good

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a mature Conifer Plantation with a significant hardwood intrusion in all forest levels. The Norway Spruce (*Picea abies*) are found primarily along the western boundary of this field.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
This field contains a westerly flowing four season stream.

Fire Lane Status

The Fire Break in this field, approximately 20 feet wide, follows the stream and is in need of general widening, clearing and pruning.

Lot 4—Field 14

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium - heavy density and is characterized by the dominant species of Red Pine (*Pinus resinosa*) and Norway Spruce (*Picea abies*) along with a variety of hardwoods.

Subcanopy

The subcanopy is of medium - heavy density and is represented by a variety of hardwood species such as Black Cherry (*Prunus serotina*), White Ash (*Fraxinus americana*) and Sugar Maple (*Acer saccharum*).

Shrub Layer

The shrub layer is of light density and includes Brambles (*Rubus* spp.), especially along the stream and in open forest “pockets”.

Herbaceous Layer

The herbaceous layer is of light density and is dominated by a variety of ferns such as Lady fern (*Athyrium Filix-femina*), Evergreen Woodfern (*Dryopteris intermedia*), Sensitive fern (*Onoclea sensibilis*) and New York fern (*Thelypteris noveboracensis*) along with scattered herbs.

Successional Status

This field represents a mature Conifer Plantation in the mid - late stages of hardwood succession.

Botanical Concerns - includes both invasive and protected species

Invasive: Garlic Mustard (*Alliaria officinalis*)

Protected: All ferns listed under “Herbaceous Layer” except for Sensitive fern (*Onoclea sensibilis*).

Lot 4—Field 15

FIELD WORKSHEET #1 GENERAL FORESTRY INFORMATION

Lot # 4 Total Acres: 264 Field Number(s): 15 Acres: 6 Date: 8/25/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable		Condition (Good, Fair, Poor)
Sugar Maple	S-20	Medium	22	Multiple		78	40	Good
Yellow Birch	P-16	Light	17	Multiple		70	30	Fair
Black Cherry	14-22	Light	14	Multiple		82	36	Good

* “S” refers to saplings, “P” refers to pole size dimensions, “SL” refers to saw log dimensions

** Represents the most recent growth rings per inch from a core sample

Comments

This field represents a young, generally wet Hardwood Forest with some mature mixed hardwoods distributed throughout. It is also important to note that the eastern section of this field contains a variety of mature hardwoods.

**The 1965 USDA map does not correspond to the new GIS map created in 2003. Field Number 15 is actually approximately 6 acres instead of 28 acres as determined by surveys conducted by Messinger Woods. It is recommended then, that the south and west borders be surveyed by Erie County to verify these findings.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
This field contains a northwesterly flowing four season stream.

Fire Lane Status

This field contains a Fire Break that is approximately 18 feet wide and is in need of grading (very wet areas), widening, clearing and pruning.

Lot 4—Field 15

FIELD WORKSHEET #2 ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium density and is characterized by Sugar Maple (*Acer saccharum*), Yellow Birch (*Betula lutea*), Black Cherry (*Prunus serotina*) along with some Eastern Hemlock (*Tsuga canadensis*).

Subcanopy

The subcanopy is of medium density and is represented primarily by Sugar Maple (*Acer saccharum*).

Shrub Layer

The shrub layer is of light density and includes Brambles (*Rubus* spp.) and Common Spicebush (*Lindera benzoin*).

Herbaceous Layer

The herbaceous layer is of very light density with occasional ferns such as Sensitive fern (*Onoclea sensibilis*), Christmas fern (*Polystichum acrostichoides*), Evergreen Woodfern (*Dryopteris intermedia*) and Lady fern (*Athyrium Filix-femina*).

Successional Status

This field represents both young and mature Hardwood Forests. These systems will gradually evolve into Maple dominated Climax Forests.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under “Herbaceous Layer” except for Sensitive fern (*Onoclea sensibilis*).

Lot 4 Summary and Recommendations

FIELD WORKSHEET #3 WILDLIFE SUMMARY

Lot # 4 offers an excellent variety of habitats for diverse populations of wildlife species. Field Numbers 1, 4, 6, 8, 11, 12 and 14 represent mature Conifer Plantations in various stages of hardwood succession. Field Numbers 3, 10, 13 and 15 include young - mature Hardwood Forests and Field Numbers 2, 5, 7 and 9 represent Marsh/Wet Thicket Communities in various stages of succession.

During a period of three days, staff ecologists recorded a variety of wildlife observations focused upon actual sightings and other wildlife “signs”. The following list represents a brief overview of those encounters focused upon Mammals, Birds and Reptiles/Amphibians.

Mammals

Whitetail Deer (<i>Odocoileus virginianus</i>)	Red Fox (<i>Vulpes fulva</i>)
Gray Squirrel (<i>Sciurus carolinensis</i>)	Raccoon (<i>Procyon lotor</i>)
Red Squirrel (<i>Tamiasciurus hudsonicus</i>)	Coyote (<i>Canis latrans</i>)
Eastern Chipmunk (<i>Tamias striatus</i>)	

Birds

Wild Turkey (<i>Meleagris gallopavo</i>)	Black-capped Chickadee (<i>Parus atricapillus</i>)
Pileated Woodpecker (<i>Dryocopus pileatus</i>)	Blue Jay (<i>Cyanocitta cristata</i>)
White-breasted Nuthatch (<i>Sitta carolinensis</i>)	Great Crested Flycatcher (<i>Myiarchus crinitus</i>)
Redtail Hawk (<i>Buteo jamaicensis</i>)	Common Crow (<i>Corvus brachyrhynchos</i>)
House Wren (<i>Troglodytes adorn</i>)	Gray Catbird (<i>Dumetella carolinensis</i>)
Eastern Phoebe (<i>Sayornis phoebe</i>)	

Reptiles/Amphibians

Green Frog (<i>Rana clamitans melanota</i>)	American Toad (<i>Bufo americanus</i>)
Spotted Newt (<i>Notophthalmus viridescens</i>)	Spring Peeper (<i>Hyla crucifer</i>)

FIELD WORKSHEET #4 RECOMMENDATIONS

The following recommendations for Lot # 4 of the Erie County Forestry Management Plan are based upon field data collected by Earth Spirit Educational Services, Inc. in the areas of Forest Ecology, Wildlife Biology and general Ecology.

Field Number 1

Description - This field represents a mature Red Pine (*Pinus resinosa*) Plantation in the mid stages of hardwood succession with American Beech (*Fagus grandifolia*) presently existing in sapling - pole size and extending into the subcanopy.

Recommendations - This field should be actively managed for Red Pine.

Field Numbers 2, 5, 7 and 9

Description - These fields represent Marsh/Wet Thicket Communities in various stages of succession into a mesic Shrubland/Young Forest.

Recommendations - These fields should remain without treatment in order to promote habitat diversity for local wildlife.

Field Numbers 3 and 13

Description - These fields represent mature mixed Hardwood Forests dominated by Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*) and Eastern Hemlock (*Tsuga canadensis*), a conifer associate.

Recommendations - These fields represent an excellent opportunity for a selective harvest of mature mixed hardwoods.

Field Numbers 4, 6, 8 and 12

Description - These fields represent mature Red Pine (*Pinus resinosa*) Plantations in the mid - late stages of hardwood succession.

Recommendations - These fields should be actively managed for Red Pine. The Sugar Maple in these fields should remain without treatment in order to serve as “seed trees” for hardwood regeneration.

Field Numbers 10 and 11

Description - These fields represent young, seasonally wet Hardwood Forests. Field Number 11 also contains a mature Norway Spruce Plantation in the mid stages of hardwood succession.

Recommendations - These fields should remain without treatment in order to enhance wildlife habitat, prevent soil erosion and protect the watershed.

Field Number 14

Description - This field represents a mature Red Pine (*Pinus resinosa*) and Norway Spruce (*Picea abies*) Plantation in the mid - late stages of hardwood succession.

Recommendations - This field should be actively managed for conifers. This field also contains mature Black Cherry, White Ash and Sugar Maple that should remain without treatment in order to serve as “seed trees” for hardwood regeneration.

Field Number 15

Description - This field represents a middle aged - mature mixed Hardwood Forest.

Recommendations - This field may be thinned on a selective basis for mature hardwoods.

Lot 4

Soils, Waterways and Topography

Soils

The soils on Lot 4 are predominately well drained Chenango Gravelly Loam (CkB, CkC and CkD), 3-25% slopes. These soils have moderate to rapid permeability and are potentially highly erodible, except for in the steeper areas, where they are highly erodible. There are also several areas of hydric soils, designated as New York State and Federal wetlands. These include the poorly drained, variably permeable Fluvaquents and Udifluvents (Fu), very poorly drained, moderately permeable Halsey Silt Loam (Ha) and the very poorly drained, moderately permeable Lyons Mucky Silt Loam (Lz). Along stream corridors lie areas of the somewhat poorly drained, moderately permeable Raynham Silt Loam (RaA) and Rhinebeck Gravelly Loam (RkA), and the moderately well drained, slowly permeable, highly erodible Williamson Silt Loam (WeC), with 8-15% slopes.

Waterways and Topography

A trout stream runs parallel to the Town boundary at the southern end of the lot, and another stream meanders through the north portion of the lot. These are both Class C tributaries to Buffalo Creek, a Class A stream, protected as a drinking water source. Thermal pollution is the primary impairment to Buffalo Creek, caused by removal of vegetation along streambanks. The primary pollutant source in the stream is agriculture; secondary pollutants include construction, urban runoff, on-site waste treatment systems, streambank erosion and road bank erosion, contributing to impairments to fish propagation and survival. The southern portion of the lot is generally flat and gentle slopes characterize the northern acreage. Soil disturbing activities should be minimized within riparian buffer areas to protect the water resource.

Lot 4

Forest Stewardship Recommendations

Stand A (Field 1)

MEDIUM PRIORITY

This area of mature conifer plantation of red pine has widely scattered small to medium sawtimber size hardwoods of black cherry and aspen. The pine understory has scattered saplings of beech and sugar maple, but few seedlings. The density is high; no thinning had been done. Red pine diameters average 11-13" with maximums around 17". Terrain is steep, well-drained knolls. The mature pines should be scheduled for patch harvesting to complete the transition to native hardwoods, but some control of the beech saplings should be done at the same time. The scattered sawlog hardwoods of cherry should be left for seed trees (5-10/ac), which then could be salvaged about 3-5 years after the conifers are cut. Recheck 3 years after conifer harvest.

Stand B (Fields 3, 13)

HIGH PRIORITY

This is an uneven-aged stand of northern hardwoods containing predominantly sugar maple, hemlock, beech, red maple and white ash with lower quantities of black cherry, yellow birch, bitternut hickory and basswood. Some sections have more hemlock than other species. The stand density is moderate with 70-120 sq ft/ac basal area. Maximum diameters are large sawtimber, up to 25-30"+. Beech is heavily diseased, but hemlock and maple are generally good quality. The understory is composed of hemlock, sugar maple and beech saplings, with a good quantity of maple seedlings. There are very old stumps of maple and beech, indications of a previous timber harvest in this stand. To address a timber objective, a light, selection harvest could be done in this stand, across many diameters, reducing the basal area by no more than 1/3. Light timber stand improvement should accompany the harvest to remove inferior trees and to promote adequate regeneration around residual trees. Insist upon no-cut buffers about 100 wide along property boundaries, the gravel-bottom streams and around significant wetlands. The terrain is rough and bumpy, but the upland soils have good internal drainage. There are no long slopes for erosion problems, but the hollows between uplands are very boggy. The stream in Old Field 13 is protected Class C(t), so buffers should be left, and crossing would need a permit. Old fire lanes are choked with growth, and it may be wiser to spend time doing TSI than maintaining seldom used fire lanes. Recheck in 15 years.

Stand C (Fields 4, 8)

HIGH PRIORITY (8)

This area of mature conifer plantations of red pine has widely scattered small sawtimber size hardwoods of black cherry. The pine understory has scattered saplings of beech and black cherry, but very few seedlings. Old Field 8 has severe dieback and breakage of red pine, with the ground littered with rotting trunks. The red pines of Old Field 4 do not appear to be dying as in Old Field 8. The stand density is moderate; no thinning had been done. Red pine diameters average 12" with maximums around 14-16". Terrain is steep, sandy knolls. The mature pines should be scheduled for patch harvesting to complete the transition to native hardwoods, but some control of the beech saplings should be done at the same time. Old Field 8 should be scheduled to harvest before Old Field 4. The scattered sawlog hardwoods of cherry should be left for seed trees (5-10/ac), which then could be salvaged about 3-5 years after the conifers are cut. Recheck 3 years after conifer harvest.

Stand D (Fields 2, 5, 7, 9)

These are small wetlands of scattered large shrubs and herbaceous plants. These areas have value as wildlife habitat, plant diversity and for outdoor education. Old Field 2 is part of a Class 1, protected NYS freshwater wetland and is also identified as having a peat bog environment. These wetlands should be left intact and protected from disturbance by a 100' surrounding buffer.

Stand E (Fields 6, 12)**MEDIUM PRIORITY**

This area of mature conifer plantations of red pine has widely scattered small sawtimber size hardwoods of black cherry and sugar maple. The pine understory has scattered saplings of sugar maple plus hemlock saplings along the edges of hemlock/hardwood stands. The stand density is moderate; no thinning had been done. Red pine diameters average 11-13" with maximums around 17". Terrain is undulating, sandy knolls. The mature pines should be scheduled for patch harvesting to complete the transition to native hardwoods. The scattered sawlog hardwoods should be left for seed trees (5-10/ac), which then could be salvaged about 3-5 years after the conifers are cut. Recheck 3 years after conifer harvest. 100' buffers should be left around the stream, which in Old Field 12 is protected as Class C(t).

Stand F (Field 10)

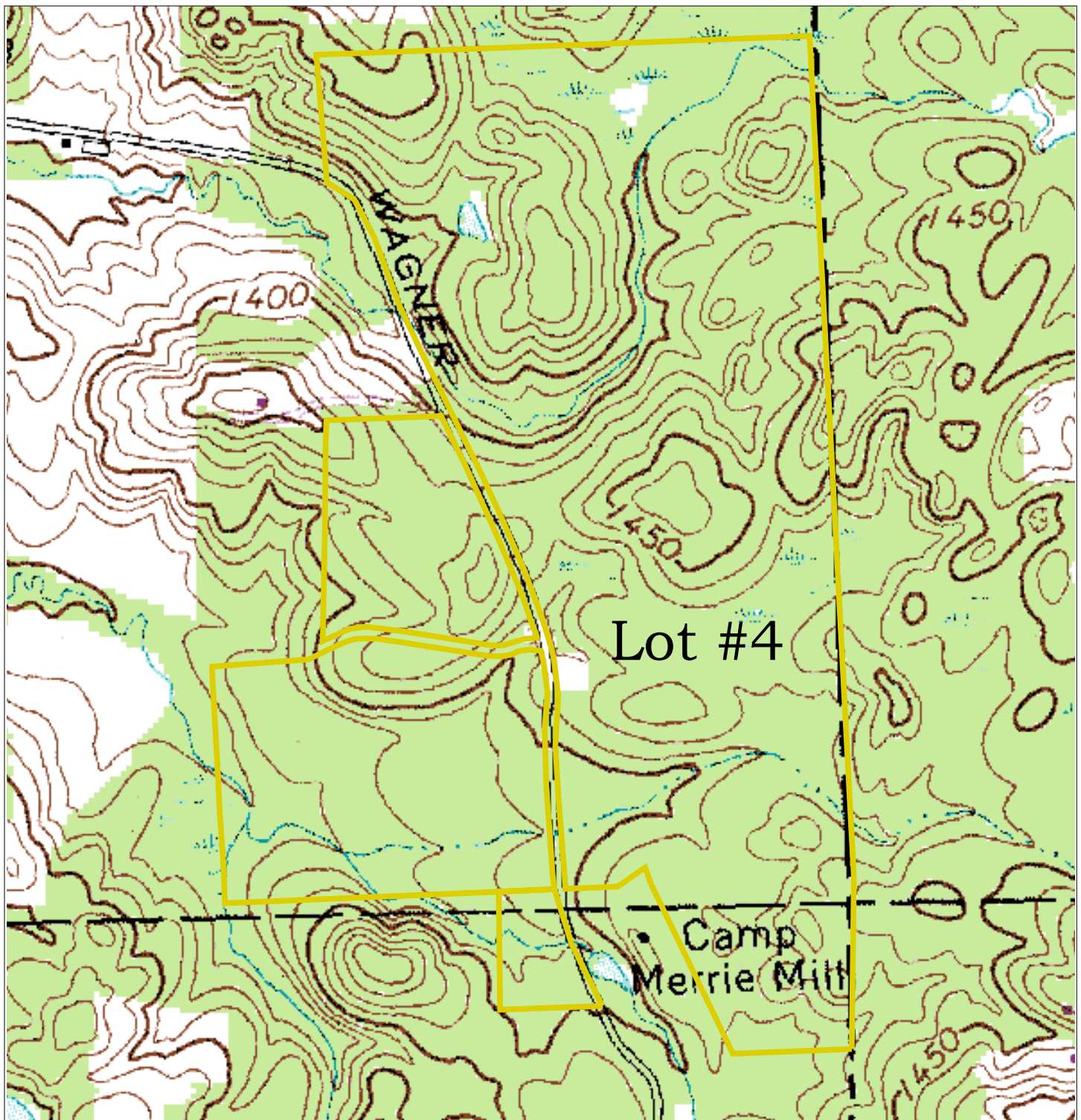
This area is a flat, poorly drained area with scattered saplings and poles of elm, red maple, wild apple, hawthorns and a few ash and sugar maples. Most of the area is in shrubs. This stand is identified as a Class 1, protected NYS freshwater wetland. Recreational access is prohibited by the wet conditions. This area should be managed primarily for wildlife and currently needs no activities scheduled.

Stand G (Fields 11, 14)**MEDIUM PRIORITY**

This area is mature plantations of red pine and Norway spruce. Neither plantation has been thinned, so the live crown ratios are around 20% and stand density is high, about 200 sq ft of basal area per acre. Diameters average about 14" in the red pine with maximums around 18". There are scattered small sawtimber black cherry and sugar maples in the pines. There are very sparse hardwood sawtimber trees and few saplings in the spruce sections. The mature conifers should be scheduled for patch harvesting to continue the transition to native hardwoods. The scattered sawlog hardwoods should be left for seed trees (5-10/ac if possible), which then could be salvaged about 5-8 years after the conifers are cut. Recheck 5 years after conifer harvest.

Stand H (Field 15)

This is a small area of uneven-aged hardwoods along the edge of Stand F and the south property boundary. There are sections of predominantly hemlock-sugar maple and others with sugar maple, yellow birch and black cherry. The stream is Class A to the west and C(t) upstream and the lower, wetter sections are included in the Class 1 NYS freshwater wetland so it has considerable State protection. This area should be managed as a buffer along the boundary and stream and thus should be left undisturbed for wildlife habitat.

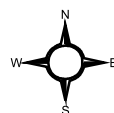


Erie County Forest Management Plan

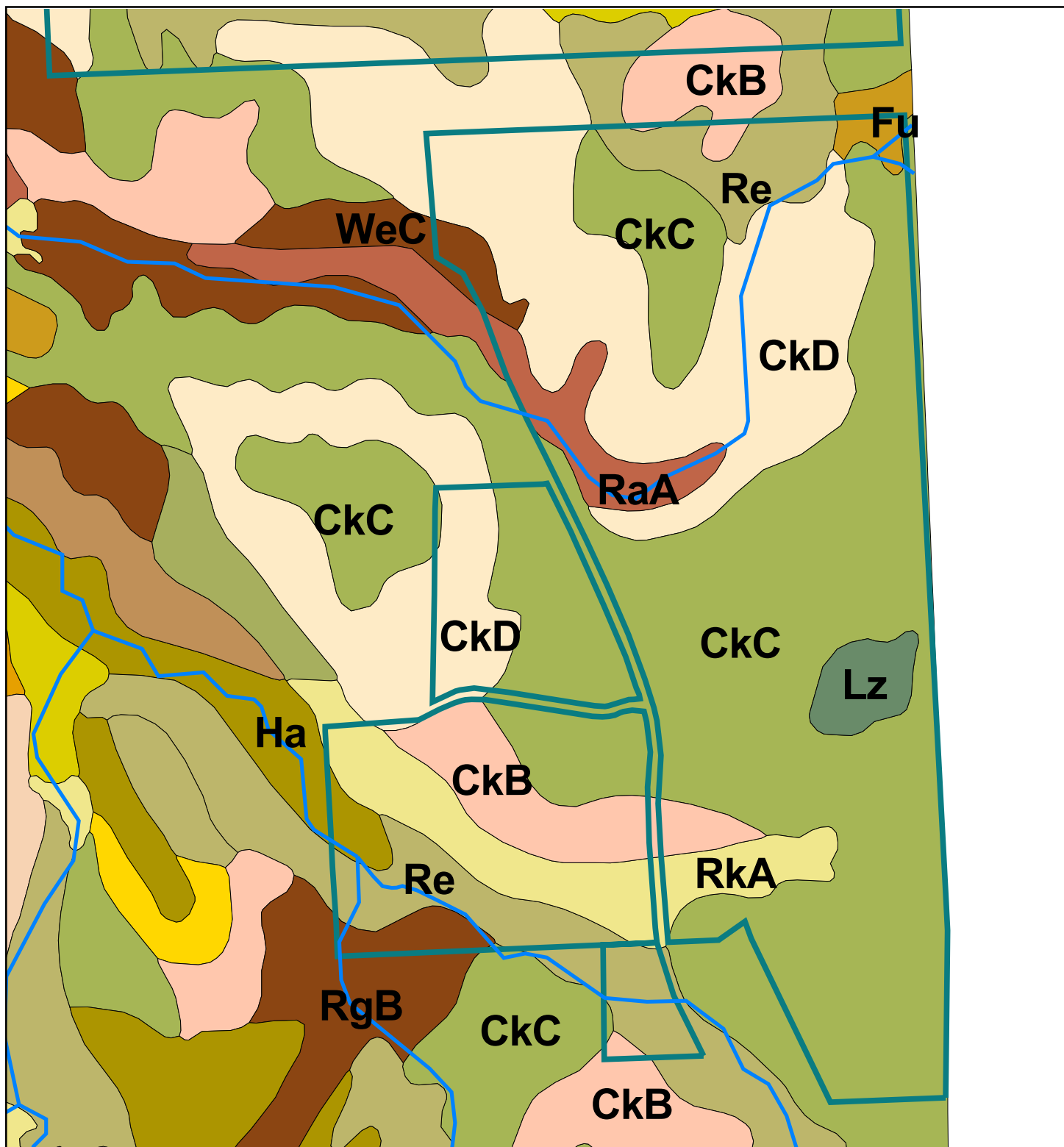
USGS TOPOGRAPHIC QUADRANGLE



Map Prepared By:
Erie County Soil and Water
Conservation District



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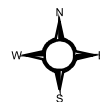


Erie County Forest Management Plan

LOT #4 - SOIL TYPES



Map Prepared By:
Erie County Soil and Water
Conservation District



300 0 300 600 Feet

Brief Soil Descriptions – Lot 4

For further information refer to the *Soil Survey of Erie County, New York*.

Symbol

Name / Description

CkB *Chenango Gravelly Loam, 3 to 8 Percent Slopes*

Deep, gently sloping, well drained, low lime, gravelly loam soil formed mainly in gravel and sand. The available water capacity is low. Permeability is moderate to rapid in the surface soil and subsoil and generally rapid or very rapid in the substratum. PRIME FARMLAND, POTENTIALLY HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIs, NYS SOIL GROUP-2B, K=.24, T=3

CkC *Chenango Gravelly Loam, 8 to 15 Percent Slopes*

Deep, sloping, well drained, low lime, gravelly loam soil formed mainly in gravel and sand. The available water capacity is low. Permeability is moderate to rapid in the surface soil and subsoil and generally rapid or very rapid in the substratum. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIIE, NYS SOIL GROUP-5b, K=.24, T=3

CkD *Chenango Gravelly Loam, 15 to 25 Percent Slopes*

Deep, moderately steep, well-drained, low lime, gravelly loam soil formed mainly in gravel and sand. The available water capacity is low. Permeability is moderate to rapid in the surface soil and subsoil and generally rapid or very rapid in the substratum. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IVe, NYS SOIL GROUP-6b, K=.24, T=3

Fu *Fluvaquents and Udifluvents, Frequently Flooded*

Moderately deep to deep, nearly level, well drained to poorly drained, high to low lime, variable soils formed in recent stream deposits. The available water capacity and permeability are variable. No K or T values are assigned. HYDRIC SOIL, CAPABILITY CLASS-Vw, NYS SOIL GROUP-9

Ha *Halsey Silt Loam*

Deep, nearly level, poorly drained and very poorly drained, medium lime, silt loam soil formed mainly in gravel and sand deposits. The available water capacity is moderate. Permeability is moderate or moderately slow in the subsoil and generally rapid in underlying layers. HYDRIC SOIL, CAPABILITY CLASS-IVw, NYS SOIL GROUP-7b, K=.24, T=5

Lz *Lyons Mucky Silt Loam*

Deep, nearly level, very poorly drained, high lime, silt loam soil formed in fine loamy glacial till. Typically, this soil has a surface layer of very dark brown mucky silt loam about 9 inches thick. The available water capacity is moderate to high. Permeability is moderate in the surface soil, moderately slow in the subsoil and slow or very slow in the substratum. HYDRIC SOIL, CAPABILITY CLASS-IVw, NYS SOIL GROUP-7b, K=.37, T=5

RaA *Raynham Silt Loam, 0 to 3 Percent Slopes*

Deep, nearly level, somewhat poorly drained, high lime, silt loam soil formed in silty lake sediments. The available water capacity is moderate to high. Permeability is generally moderate in the surface soil, moderately slow in the subsoil and slow in the substratum. PRIME FARMLAND (WHERE DRAINED), CAPABILITY CLASS-IIIW, NYS SOIL GROUP-5b, K=.49, T=3

Re *Red Hook Silt Loam*

Deep, nearly level, somewhat poorly drained, medium lime, silt loam soil formed in gravelly deposits. The available water capacity is generally low. Permeability is moderate. CAPABILITY CLASS-IIIW, NYS SOIL GROUP-5b, K=.39, T=3

RgB *Rhinebeck Silt Loam, 3 to 8 Percent Slopes*

Deep, gently sloping, somewhat poorly drained, medium to high lime, silt loam soil formed in clayey lake sediments. The available water capacity is moderate to high. Permeability is very slow. PRIME FARMLAND (WHERE DRAINED), POTENTIALLY HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIIW, NYS SOIL GROUP-5b, K=.49, T=3

RkA Rhinebeck Gravelly Loam, 0 to 3 Percent Slopes

Deep, nearly level, somewhat poorly drained, medium to high lime, gravelly loam soil formed in water-sorted deposits and clayey lake sediments. The available water capacity is moderate to high. Permeability is rapid in the gravelly part and slow in the clayey part. PRIME FARMLAND (WHERE DRAINED), CAPABILITY CLASS-IIIW, NYS SOIL GROUP-5b, K=.37, T=3

WeC Williamson Silt Loam, 8 to 15 Percent Slopes

Deep, sloping, moderately well drained, low lime, silt loam soil formed in silt and very fine sand sediments. It has a very firm fragipan at a depth of 18 to 45 inches. The available water capacity is moderate. Permeability is slow or very slow in the fragipan. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIIE, NYS SOIL GROUP-6b, K=.49, T=3



1965 CONSERVATION PLAN MAP

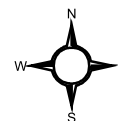
Erie County
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LOT #4

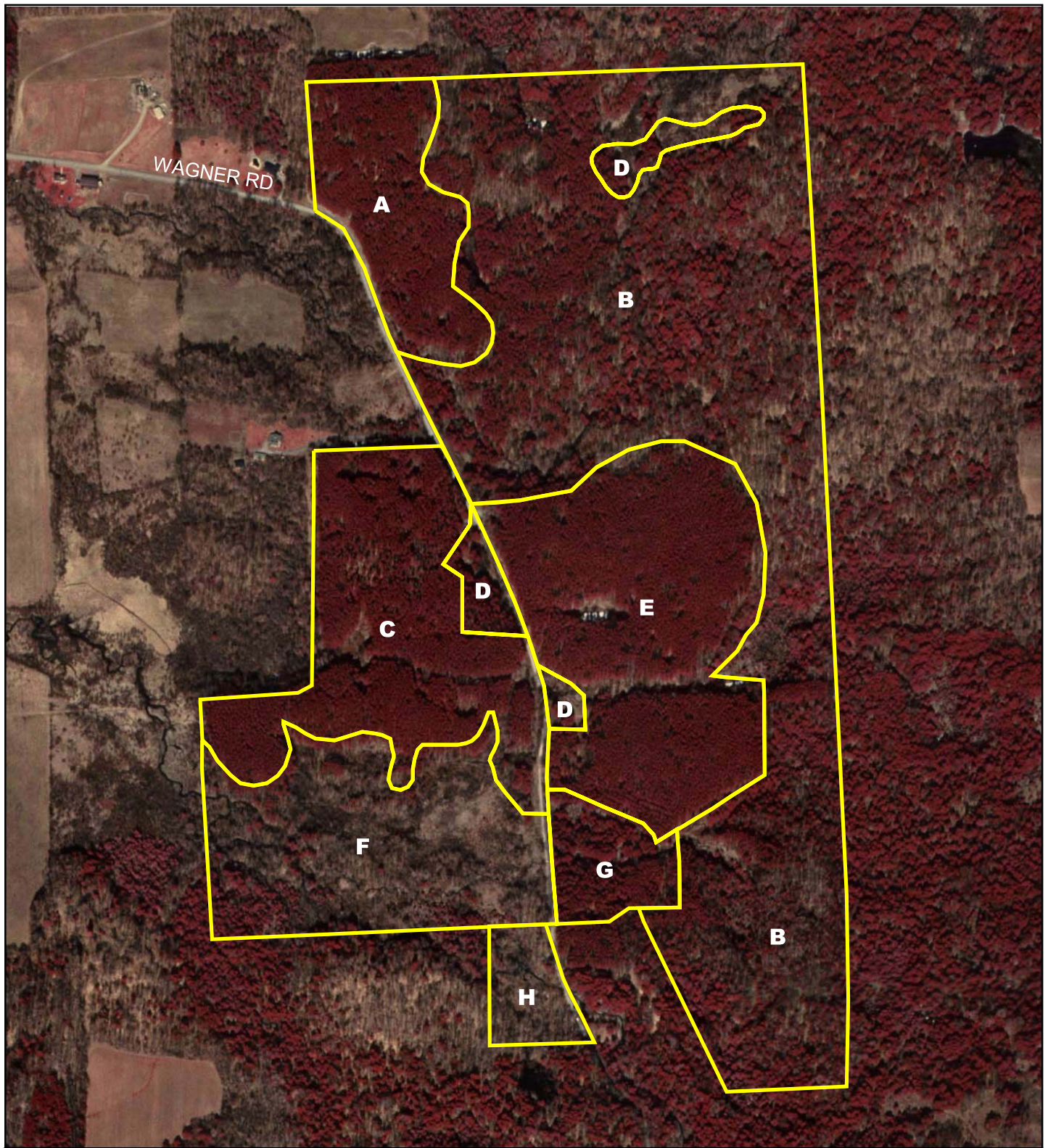


Map Prepared By:
Erie County Soil and Water
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* Basemap Source: 1995 Color IR Orthophotography



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2003 STEWARDSHIP RECOMMENDATION MAP

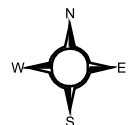
Erie County
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* Basemap Source: 1995 Color IR Orthophotography



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